EOC Reference Sheet Guide

Mathematics

General Equations - linear

$Ax + By = C$ *Standard form*

Recognize it as a linear function.
Find intercepts (by plugging in zero for the each variable in turn.

General Equations - linear

$Y = mx + b$ *Slope-Intercept form*

Easy to graph.
Graph b (y-intercept first)
Then count slope from that point.

General Equations - linear

$Y = mx + b$ *Slope-Intercept form*

Easy to use. All other forms of line can be converted to this one.

General Equations - linear

$y - y_1 = m(x - x_1)$ *Point-slope form*

Easy to graph.
Graph point (x_1, y_1)
Then count slope from that point.

General Equations - linear

$y - y_1 = m(x - x_1)$ *Point-slope form*

Easiest equation to write if you are given a point and a slope. Just plug in values for m, x_1, y_1.

TRY ONE

Write the equation of a line through point (3, -2) with slope -3.

Y + 2 = -3(x-3)

General Equations - quadratic

$y = a(x - h)^2 + k$ *Vertex form*

Vertex of the parabola at (h, k). Remember that you need to change the sign of h.

General Equations - quadratic

$y = ax^2 + bx + c$ *Standard form*

Axis of symmetry.
Then vertex.
Then y-intercept.

General Equations - exponential

$y = ab^x$ *Standard form*

Notice the x is in the exponent.
Growth if b > 1.
Decay if b < 1.

GENERAL FORMULAS

Slope formula

Use to find slope given two points. Label each point as x and y.

Try It.

Find the slope of a line that goes through (-5, 2) and

(7, -3)

GENERAL FORMULAS - ARITHMETIC SEQUENCE

Explicit formula

$$a_n = a_1 + (n - 1)\, d$$

Find any term in the sequence if you know the first term (a_1) and the common difference (d). The term number you want is n.

GENERAL FORMULAS - ARITHMETIC SEQUENCE

Explicit formula

$$a_n = a_1 + (n - 1)\, d$$

Try it:
Find the 30th term in the sequence:

-3, 0, 3, 6, 9....

General Formulas - *drt*

Distance = rate * time

General Formulas

Quadratic formula

Use to solve (find roots, zeros or x-intercepts) of quadratic equations.

Area/Volume

Area of a Triangle

Area of a Circle

Circumference of a Circle

Volume of a Prism (Bh) - aka length*width*height